

patients in their clinic population. In contrast, mainstream general practice may experience problems in identifying eligible Aboriginal and Torres Strait Islander people. General practitioners and practice staff should ask all patients whether they identify as being of Aboriginal and Torres Strait Islander origin by asking the National Standard Identification question 'Are you of Aboriginal or Torres Strait Islander origin?'.<sup>14,15</sup>

Once indigenous people are correctly identified and registered with Medicare Australia they are then eligible to access the co-payment assistance. Pharmacists will be reimbursed for the co-payment the patient no longer pays. General practices will be funded through the Practice Incentives Program Indigenous Health Incentive.<sup>12</sup>

## Conclusion

Outcomes in chronic disease will be suboptimal if the patient does not have access to treatment. There are several initiatives which aim to improve the access of Aboriginal and Torres Strait Islander people to PBS medicines. The Indigenous Chronic Disease Package will reduce the cost of prescriptions for patients with chronic disease. This has the potential to help to close the gap in health between Aboriginal and Torres Strait Islander people and other Australians.

## References

1. Vos T, Barker B, Stanley L, Lopex AD. The burden of disease and injury in Aboriginal and Torres Strait Islander peoples 2003. Brisbane: University of Queensland; 2007.
2. Australian Institute of Health and Welfare. Expenditures on health for Aboriginal and Torres Strait Islander peoples 2004-05. Health and welfare expenditure series no. 33. Cat. No. HWE 40. Canberra: Australian Institute of Health and Welfare; 2008.
3. Listing on the PBS for Aboriginal and Torres Strait Islander people. Department of Health and Ageing. 2011. [www.pbs.gov.au/info/publication/factsheets/shared/2010-03-01-PBS\\_Listings\\_For\\_Aboriginal\\_And\\_Torres\\_Strait\\_Islander\\_People](http://www.pbs.gov.au/info/publication/factsheets/shared/2010-03-01-PBS_Listings_For_Aboriginal_And_Torres_Strait_Islander_People) [cited 2011 Mar 9]
4. O'Connor TE, Perry CF, Lannigan FJ. Complications of otitis media in Indigenous and non-Indigenous children. *Med J Aust* 2009;191 Suppl 9:S60-4.
5. Coates HL, Morris PS, Leach AJ, Couzos S. Otitis media in Aboriginal children: tackling a major health problem [editorial]. *Med J Aust* 2002;177:177-8.
6. Trewin D, Madden R. The health and welfare of Australia's Aboriginal and Torres Strait Islander peoples, 2005. Canberra: Australian Bureau of Statistics, Australian Institute of Health and Welfare; 2005.
7. The health and welfare of Australia's Aboriginal and Torres Strait Islander peoples, 2010. Canberra: Australian Bureau of Statistics, Australian Institute of Health and Welfare; 2010.
8. Australian Institute of Health and Welfare. 2007 National drug strategy household survey: detailed findings. Drug statistics series no. 22. Cat. No. PHE 107. Canberra: Australian Institute of Health and Welfare; 2008.
9. Johnston FH, Morris PS, Speare R, McCarthy J, Currie B, Ewald D, et al. Strongyloidiasis: a review of the evidence for Australian practitioners. *Aust J Rural Health* 2005;13:247-54.
10. House of Representatives Standing Committee on Family and Community Affairs. Health is life – Report on the inquiry into indigenous health. Canberra: Commonwealth of Australia; 2000. p. 20.
11. Steering Committee for the review of government service provision. Overcoming indigenous disadvantage: key indicators 2007. Canberra: Productivity Commission; 2007.
12. Closing the Gap – Tackling Indigenous Chronic Disease. [www.health.gov.au/tackling-chronic-disease](http://www.health.gov.au/tackling-chronic-disease) [cited 2011 Mar 9]
13. Medicare Australia. Practice incentives program. Indigenous health incentive guidelines – September 2010. [www.medicareaustralia.gov.au/provider/incentives/pip/files/indigenous-health-incentive-guidelines.pdf](http://www.medicareaustralia.gov.au/provider/incentives/pip/files/indigenous-health-incentive-guidelines.pdf) [cited 2011 Mar 9]
14. Australian Institute of Health and Welfare. Improving identification of Aboriginal and Torres Strait Islander peoples in health data – working paper. Canberra: Australian Institute of Health and Welfare; 2009.
15. Couzos S, Delaney Thiele D. The new 'Indigenous health' incentive payment: issues and challenges. *Med J Aust* 2010;192:154-7.

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## Medicinal mishap

### Mismanagement of dental infection

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### Case

A 25-year-old man with schizophrenia presented as an emergency with severe pain and swelling of his left jaw and

neck. He was febrile (38.9° C) and could only open his jaw 5 mm. Swallowing was difficult and he was dehydrated.

The patient had a history of toothache for three years. For the past two years he had experienced facial swellings. He had attended several medical clinics and received a range of antibiotics, mainly amoxicillin, but also erythromycin, tetracycline, metronidazole and amoxicillin with clavulanic acid. He had no recollection of ever being given a referral or being told that he must seek dental advice.

Two weeks before presentation the patient developed trismus and difficulty in swallowing. He went to an emergency

department and was given oral analgesia and amoxycillin with clavulanic acid before being discharged without arranged follow-up. The patient briefly improved, but re-presented a few days later so he was admitted for intravenous amoxycillin and metronidazole. He improved and was discharged with advice to 'next time' go to a hospital with an oral and maxillofacial service.

On presentation, the clinical diagnosis was Ludwig's angina or a spreading neck infection from an acute dental cause. Direct endoscopic examination of the oropharynx showed an extension of the swelling into the lateral oropharynx, a deviation of the uvula and marked swelling with imminent supraglottic obstruction.

An orthopantomograph (Fig. 1) was taken with an oral and maxillofacial surgeon present and the patient was intubated before being placed in a CT scanner (Fig. 2). The left mandibular second molar and six other decayed teeth were removed. Copious amounts of pus were drained intra-orally and via a skin incision.

Microbiological swabs for culture and sensitivity were taken before starting empirical intravenous cefalotin and metronidazole. Culture and sensitivity showed that the bacteria were resistant to the penicillins and tetracyclines, but sensitive to the cephalosporins and metronidazole.

The patient was in intensive care for 48 hours and remained in hospital for a further three days. On review at six months he had fully recovered and had attended the local government dental clinic.

## Comment

The principles of managing infection, such as, remove the cause, drain the pus and support the host, have been known since the time of Hippocrates. The advent of antibiotics changed the management of life-threatening infections. However, the inappropriate use of antibiotics and increasing resistance have seen the return of severe spreading infections from common causes.

The case reported is not exceptional, but represents the daily or weekly workload of specialist units at major metropolitan hospitals. In the past ten years we have treated over 1000 similar cases and have had three fatalities. One patient died of airway obstruction, another died of septicaemia caused by bacteria with multiple resistances to antibiotics and the third died from cerebral infection with a background of community-acquired methicillin-resistant *Staphylococcus aureus*. All these cases could have been prevented by timely dental intervention. Antibiotics may temporarily alleviate symptoms, but in the medium to long term the delay in treatment due to the use of antibiotics makes the condition worse.

## Recommendation

Dental pain and swelling is a dental problem which should be treated by a dentist. If the patient presents to a doctor they should be referred to a dentist. Access to affordable and timely dental services is crucial.

A patient who presents with upper neck swelling, difficulty in swallowing and who cannot open their jaw 2 cm, no longer just has a dental problem but has an airway problem. Their airway should be secured before transfer to a hospital with the appropriate surgical, medical and anaesthetic facilities.

Do not simply prescribe antibiotics for dental infections.<sup>1,2</sup> Emphasise the need for dental treatment as soon as possible.

## References

1. Therapeutic Guidelines: Oral and Dental. Version 1. Melbourne: Therapeutic Guidelines Limited; 2007.
2. Watterson J. Dental antibiotics [letter]. *Aust Prescr* 2010;33:167-9.

Fig. 1

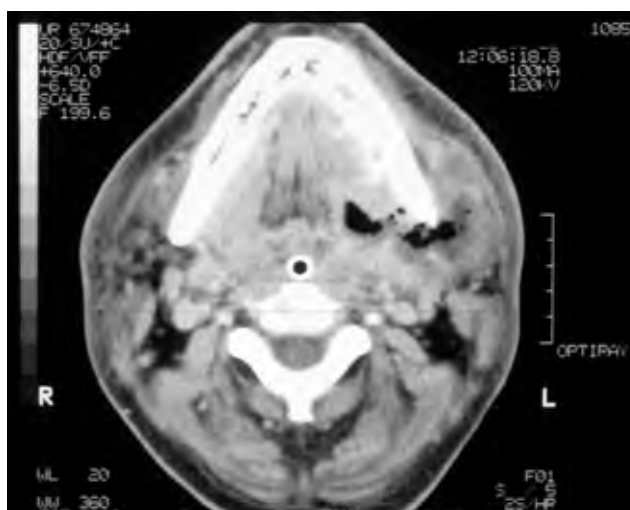
### Orthopantomograph of dental abscess



There is obvious decay on the right side, but these teeth are draining into the mouth. The cause of the infection is the abscess on the left lower second molar which is not draining into the mouth, but is draining into the left submandibular triangle.

Fig. 2

### CT scan of a submandibular abscess



There is marked generalised neck swelling. (The patient was intubated before being placed in the scanner.)